**FIN281 202375 KC: Additional Assignment Questions**

**Due:** Tuesday, 2nd January 2024

**Submission:** [FOBJBS-Subject-Admin@csu.edu.au](mailto:FOBJBS-Subject-Admin@csu.edu.au)

**Assessment Weighting: 30%** - Each question is worth 10 marks

For this assignment, you are required to answer the following questions, *showing ALL working where appropriate*.

**Question 1**

1. Jenny would like to buy a home in 12 months time. She currently has $22,000 saved in the bank earning an effective annual interest rate of 4.9%. What would be the equivalent annual interest rate nominal monthly? (1 mark)
2. Jenny estimates she can save an *additional* $1,100 per month towards a deposit. Assuming the banks interest rate on savings remains the same and that the banks pays interest monthly, how much will she have saved in total in 12 months time?

(2 marks)

1. In 12 months time Jenny takes out a 22 year home loan for $490,000 at an interest rate of 6.1% per annum (nominal monthly). What will be her fixed monthly loan repayment?

(2 marks)

1. What is the effective annual rate of interest on this loan? (1 mark)
2. After two years of loan repayments, Jenny’s bank decides to lower the interest rate charged on her loan to 5.2% per annum (nominal monthly). What is the loan outstanding at this time? (2 marks)
3. If jenny decides to keep paying the original loan repayment amount in c), how long will it take her to pay of the remaining loan at the new lower interest rate? (2 marks)

**Question 2**

Below are the closing monthly share prices for XYZ Corporation for 2022.

|  |  |
| --- | --- |
| **Month** | **Close $** |
| Dec 2021 | 29.08 |
| Jan 2022 | 30.55 |
| Feb | 31.90 |
| Mar | 31.55 |
| Apr | 32.30 |
| May | 31.77 |
| June | 33.00 |
| July | 34.11 |
| Aug | 35.24 |
| Sep | 36.66 |
| Oct | 29.20 |
| Nov | 22.92 |
| Dec | 24.18 |

XYZ paid a dividend of $0.12 per share on 15 March 2022 and a dividend of $0.29 per share on 15 September 2022.

1. Calculate the monthly percentage returns for XYZ for 2022. (2 marks)
2. Calculate the mean monthly return for XYZ for 2022 (1 mark)
3. Calculate the standard deviation of monthly returns for XYZ for 2022. (2 marks)
4. Explain the different types of general risk associated with an investment in XYZ, Describe the type of risk measured by the standard deviation and explain to what extent an investor could reduce the risk of an investment in XYZ. (3 marks)
5. If the Beta on XYZ is 1.2, the risk free rate is 3.9% pa and the average annual historical return on the share market is 9.1%. Calculated the expected annual return on XYZ. (2 marks)

**Question 3**

After conducting some market research that cost $15,000, Ace Ltd is considering the purchase of a new machine for their card printing business. The machine will cost $420,000 and Ace will need to spend another $19,000 to install the machine. The machine will be installed in a building the company owns. This building is currently being rented out at $31,000 a year with the next payment due at the end of the year.

The new machine will increase the company’s revenue for the next four years by $200,000, $252,000, 279,000 and $300,000 per year respectively but the variable costs will also increase by $31,000 per year and fixed costs will increase by $10,000 per year. The machine will be depreciated on a straight-line basis to zero salvage value over the 4 year life of the project. Ace believes it can sell the machine at the end of 4 years for $20,000. The company has a 10% cost of capital and a 30% tax rate.

As the financial manager of the company, you are conducting a capital budgeting analysis of this project.

1. Calculate the incremental cash flows of the new project for each year. (3 marks)
2. Calculate the discounted payback period of the project assuming end of year cash flows. (1 mark)
3. Calculate the net present value (NPV) of the project assuming end of year cash flows. (2 marks)
4. Calculate the internal rate of return of the project. (1 mark)
5. Calculate the present value index of the project. (1 mark)
6. Summarise your findings in a brief report to management (maximum 300 words). (2 marks)

**Important Note. In answering the questions, state any assumptions you need to make and show ALL your workings. Marks will be deducted where no workings are included even if the final answers are correct.**